CONDITION

Pericarditis

Pericarditis is inflammation of the thin sac surrounding the heart, often causing sharp chest pain.

WHAT IT IS
Inflammation of the sac surrounding the heart

BODY SYSTEM
Heart and circulation

MAIN SYMPTOMS
Sharp chest pain, breathlessness, fever, palpitations

WHAT CAUSES IT
Often unknown; sometimes infection, immune conditions, or injury

HOW IT IS DIAGNOSED
Clinical criteria, ECG, blood tests, echocardiogram, sometimes cardiac MRI

MAIN TREATMENT
Anti-inflammatory medicines, rest, and treatment of the cause

CAN IT BE CURED?
Sometimes - most acute episodes resolve completely

IS IT AN EMERGENCY?
Sometimes - severe breathlessness, fainting, or shock signs

LONG-TERM OUTLOOK
Most recover; some have recurrences or lasting complications

Overview

The pericardium is a thin, double-layered sac around your heart. It contains a small amount of fluid that lets the heart move smoothly as it beats. Pericarditis means this sac has become inflamed.

The main symptom is often sharp chest pain. This pain can resemble a heart attack, so new or unexplained chest pain needs prompt medical assessment. Pericarditis itself is often treatable, but doctors must check for other serious causes of chest pain and look for complications.

Pericarditis may be acute, meaning it starts suddenly and usually lasts for several weeks. It can also continue without fully settling or return after a symptom-free period. Repeated episodes are called recurrent pericarditis.

Inflammation may cause extra fluid to collect around the heart. This is called a pericardial effusion. A small effusion may cause no problems, but a large or rapidly developing one can interfere with the heart's ability to pump.

Symptoms

Chest pain is the usual symptom. It is often sharp or stabbing and may be felt behind the breastbone or toward the left side of the chest. It can spread to the shoulders, upper back, neck, or arm.

The pain often becomes worse when you breathe deeply, cough, swallow, or lie flat. Sitting up and leaning forward may make it feel better. Not everyone has this classic pattern, however.

Other possible symptoms include:

A clinician may hear a scratching sound through a stethoscope. This is called a pericardial friction rub and is caused by the inflamed layers rubbing against each other. It may come and go, so not hearing it does not rule out pericarditis.

- Shortness of breath, especially when lying down
- A dry cough
- Fever or feeling generally unwell
- A fast, pounding, or irregular heartbeat
- Tiredness
- Swelling of the legs or abdomen if circulation is affected

Causes and risk factors

In many cases, no specific cause is found. These cases are called idiopathic pericarditis. Many are thought to follow a viral infection or an immune response to an infection.

Known causes include:

Pericarditis can occur with inflammation of the heart muscle, called myocarditis. When the pericardium is mainly affected but blood tests show some heart-muscle injury, the term myopericarditis may be used.

The chance of a complicated course may be higher when pericarditis follows major chest injury, occurs in someone with a weakened immune system, or is linked to bacterial infection, tuberculosis, cancer, or kidney failure. Taking blood-thinning medicine can also affect

assessment and management because bleeding into the pericardial space is possible.

- Viral infections and, less commonly, bacterial or fungal infections
- Tuberculosis in places where it is common
- Autoimmune conditions, such as lupus or rheumatoid arthritis
- A heart attack, heart surgery, or another injury to the chest
- Advanced kidney failure
- Cancer involving the pericardium
- Radiation treatment to the chest
- Certain medicines

Diagnosis

There is no single test that confirms every case. Diagnosis is usually based on your symptoms, an examination, and test results.

Doctors generally look for at least two characteristic findings:

An electrocardiogram, or ECG, records the heart's electrical activity. Pericarditis can cause changes across several ECG leads, although a normal ECG does not exclude it.

Blood tests may look for inflammation and infection. Troponin, a marker released when heart muscle is injured, may be checked to see whether the heart muscle is also inflamed. Kidney function and other tests may help identify an underlying cause.

An echocardiogram uses ultrasound to examine the heart. It can show fluid around the heart and whether that fluid is interfering with pumping. It may be normal when inflammation is present without an effusion.

Cardiac magnetic resonance imaging, or cardiac MRI, can show inflammation, thickening, and fluid around the heart. It may be useful when the diagnosis is uncertain or symptoms keep returning. A CT scan may be used in selected cases.

Tests for a heart attack or a blood clot in the lungs may also be needed because these conditions can cause similar symptoms. Removing and testing pericardial fluid is not routine, but it may be necessary when there is pressure on the heart or concern about bacterial infection, tuberculosis, or cancer.

- Typical pericarditis chest pain
- A pericardial friction rub

- Typical electrical changes on an electrocardiogram
- A new or increasing pericardial effusion

Treatment and management

Treatment aims to reduce inflammation, relieve symptoms, prevent recurrence, and address the cause when one is known. Some people can be treated at home after medical assessment. Hospital monitoring may be needed when there are signs of complications or a higher-risk cause.

An anti-inflammatory medicine, such as aspirin or a non-steroidal anti-inflammatory drug like ibuprofen or naproxen , is often used for uncomplicated acute pericarditis. Colchicine may be added because it can help symptoms settle and reduce the chance of another episode. Treatment length is based on symptoms, inflammation tests, and whether the condition has returned.

These medicines are not suitable for everyone. Kidney problems, stomach ulcers, pregnancy, interactions with other medicines, and the use of blood thinners can affect the choice. Do not start, stop, or combine anti-inflammatory medicines without medical advice.

Corticosteroids like prednisone or hydrocortisone reduce immune activity. They may be considered when other treatments cannot be used, when they have not worked, or when pericarditis is caused by certain immune conditions. They usually need to be reduced gradually because stopping too quickly may allow symptoms to return.

Medicines that block an inflammatory signal called interleukin-1 may be considered for difficult recurrent pericarditis. These are specialist treatments that require screening and monitoring.

Treatment of a known cause may include antibiotics like amoxicillin or doxycycline for bacterial infection, care for kidney failure, or treatment of an autoimmune condition or cancer. Fluid may need to be drained with a needle or surgery if it is placing dangerous pressure on the heart. Surgery to remove the pericardium is rarely used, usually for severe constriction that does not improve with other care.

Strenuous exercise can worsen inflammation. Physical activity is generally limited until symptoms have resolved and tests show that inflammation has settled. Return to exercise should be gradual and guided by the clinical team, particularly if the heart muscle was involved.

Complications

The most immediate serious complication is cardiac tamponade. This happens when fluid builds up under enough pressure to stop the heart filling properly. It can cause severe breathlessness, weakness, fainting, confusion, low blood pressure, or collapse. It requires emergency drainage.

Pericarditis can return after it appears to have settled. A recurrence may cause similar chest pain and inflammation. Repeated episodes can have a major effect on sleep, work, exercise, and emotional well-being, even when heart function remains normal.

Inflammation can occasionally lead to scarring and thickening of the pericardium. This is called constrictive pericarditis. The stiff sac restricts heart filling and may cause leg swelling, abdominal swelling, breathlessness, and tiredness. It is more likely after bacterial or tuberculosis-related pericarditis than after an uncomplicated episode with no identified cause.

If inflammation also affects the heart muscle, heart rhythm or pumping problems are possible. Follow-up may include repeat blood tests, imaging, or heart-rhythm monitoring.

Prevention

A first episode often cannot be prevented because the cause may be unknown or related to an unpredictable immune response after an infection.

When a cause is known, treating it can reduce ongoing inflammation. This may include managing an autoimmune condition, treating an infection, or receiving appropriate care for kidney failure.

You may be able to lower the chance of recurrence by taking prescribed treatment for the recommended period, attending follow-up, and not returning to strenuous exercise before the inflammation has settled. Do not shorten treatment simply because the pain has improved. Some medicines, especially corticosteroids, must be reduced gradually under medical supervision.

Living with it and what to expect

Many uncomplicated acute episodes improve over days to weeks, although treatment and activity limits may continue for longer. Recovery is judged by more than pain alone. Blood markers, ECG findings, and imaging may take time to return to normal.

Most people with an uncomplicated episode recover without permanent heart damage. However, no individual course can be guaranteed. Some people have symptoms that continue beyond several weeks, while others recover and later have another episode.

Recurrent pericarditis may follow a cycle of flares and symptom-free periods over months or years. Treatment may need to continue for longer, and medicines are often reduced slowly once symptoms and test results have improved. Specialist care can help when attacks continue or standard treatment causes problems.

Keep a record of chest pain, fever, breathlessness, activity, and medication changes. This may help distinguish a new inflammatory flare from muscle pain, indigestion, anxiety, or another cause. New chest pain should not automatically be assumed to be another episode.

When to get medical help

Seek emergency help for new, severe, or unexplained chest pain. It is not possible to reliably distinguish pericarditis from a heart attack or another emergency based on symptoms alone.

Call emergency services if chest pain occurs with:

Get urgent medical advice if diagnosed symptoms are worsening, a fever persists, you cannot lie flat because of breathlessness, or swelling develops in your legs or abdomen. Prompt review is also appropriate if chest pain returns during treatment.

Routine follow-up is important even when you feel better. It may include checking symptoms, inflammatory blood tests, medicine side effects, and whether it is safe to increase physical activity.

- Severe or rapidly worsening breathlessness
- Fainting, collapse, confusion, or marked weakness
- Cold, clammy, pale, or bluish skin
- Heavy chest pressure, sweating, or nausea
- A very fast or irregular heartbeat with dizziness
- Coughing up blood

Common questions

Is pericarditis the same as a heart attack?

No. Pericarditis affects the sac around the heart, while a heart attack occurs when blood flow to part of the heart muscle is blocked. The symptoms can overlap, and both can cause ECG or blood-test changes. New chest pain needs urgent assessment rather than self-diagnosis.

How long does pericarditis last?

An uncomplicated acute episode often improves over several weeks. Some people have symptoms for longer, and activity restrictions or medication may continue after the pain settles. Recurrent pericarditis can cause separate attacks over months or years.

Is pericarditis contagious?

Pericarditis itself is not contagious. If it was triggered by an infection, the infection may be able to spread, depending on its cause. Most people with presumed viral or idiopathic pericarditis do not pass pericarditis to someone else.

Can I exercise with pericarditis?

Strenuous activity is usually avoided while inflammation is active because it may worsen symptoms or increase risk, especially when the heart muscle is involved. Gentle daily activity may be possible for some people. Return to training should wait until symptoms and relevant tests have settled.

Can pericarditis come back?

Yes. Symptoms can return after a symptom-free period. Recurrence does not automatically mean that the heart has been permanently damaged, but it needs reassessment to confirm the cause of the pain and guide further treatment.

Can pericarditis damage the heart?

Most uncomplicated cases heal without lasting damage. Serious fluid pressure, constrictive scarring, or inflammation of the heart muscle can affect heart function. These complications are less typical but are why follow-up and urgent assessment of worsening symptoms matter.

Sources

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